New Hampshire Climate Change Action Plan

3rd Task Force Meeting
Keene State University
May 19, 2008, 9 AM – 4 PM

Meeting Summary Notes

Introduction to Meeting Notes

At this meeting the Task Force engaged in a preliminary discussion of the 109 actions that had been made available to the Task Force for their review. The actions had been developed by the six (6) technical and policy Working Groups (WGs) that are supporting the Task Force process. The purpose of this preliminary discussion was to:

1. *identify additional information that is necessary to fully assess the potential actions that have been developed;*
2. *gauge the Task Force's level of interest in the range of the potential actions;*
3. *identify additional actions that should be developed and evaluated; and*
4. *assess the status of the Task Force and determine what, if any, modifications to the process need to be made to ensure the success of the effort.*

Due to the preliminary nature of the Task Force's discussions at this meeting, there were no final decisions made at the event. The meeting summary notes contained below, therefore, are not intended to represent the final determination of the Task Force for any issue discussed. Instead the notes are intended to provide the WGs with information that they can use to refine their materials in the final phase of their effort. As a result, the notes will contain a variety of statements under each discussion topic that may not represent any resolutions on the part of the Task Force and at points may even seem contradictory.

Welcome by President Helen Giles-Gee of Keene State College

- President Giles-Gee highlighted actions that Keene State College (KSC) has taken to reduce its greenhouse gas emissions (GHG) (e.g., CO_2), including: the construction of a LEED certified building on campus; the planned development of an on campus cogeneration facility; and a waste vegetable oil biodiesel project that will supply KSC and City of Keene vehicles.

Presentation of Preliminary Analysis by Carbon Solutions New England (CSNE)

Dr. George Hurtt, Matt Frades, and Matt Magnusson
This presentation will be available on the NHDES website.

<u>Matt Frades – Emissions Reduction Calculations</u>
Working with Dr. George Hurtt and Dr. Cameron Wake of CSNE & UNH

- Present and Future GHG Emissions in New Hampshire
  - In 2005, New Hampshire emitted more than 20 million metric tons of CO_2 equivalents (MMT CO_2e).
  - To understand the emissions levels that might occur in a "business-as-usual" (BAU) scenario, in which no action was taken to reduce GHG emissions, it was assumed that New Hampshire's historical emissions trends (1990 to 2005) would continue unchanged into the future.

- Electric Generation and Usage (EGU)
  - The New Hampshire business-as-usual projection of future electrical generation was made by developing a model with the following assumptions:
    - New Hampshire would continue to provide 17.3% of New England electric generation, and maintain its current share of capacity
    - Any additional generating capacity would be supplied by natural-gas-fired plants AFTER all the existing plants had reached their historical maximum generation.

        - In an analysis of the actions developed by the EGU Working Group, CSNE estimated that significant emissions reduction could be realized from the implementation of a New Source Performance Standards (NSPS) which would dictate the level of GHG emissions that a new stationary source could produce.

- Transportation and Land Use (TLU)
    - A complex model was developed to estimate greenhouse gas emissions.
        - The model separated out light and heavy duty vehicles.
        - It phased in new technologies, and changes in types of fuel consumed as well as changes in the total number of vehicle miles traveled (VMT) annually.
        - It also evaluated the combined impact of a 50 miles per gallon (mpg) Corporate Average Fuel Economy (CAFÉ) standard, a 50% reduction in total annual VMTs, and lower carbon content fuels.

- Residential, Commercial, and Industrial (RCI)
    - The RCI model was based on building energy intensity (energy consumed/per square foot), New Hampshire population, and floor space growth.
    - To determine the potential future emission under a BAU scenario, CSNE applied the current energy intensity and fuel mix to the projected population size and building space that would be expected under the current rates of growth for the state.
    - The emission reduction potential of the RCI actions were calculated by phasing-in increased efficiency measures in new/renovated buildings as well as a change in fuel mix for both heat & power sources.

- Agriculture, Forestry, and Waste (AFW)
    - The AFW working group actions require a different type of analysis because Agricultural lands & Forested lands can be carbon sinks rather than emitters.
    - Dr. John Aber, UNH Professor of Natural Resources, was able to provide an estimate of the feasible sustainable potential of biomass derived heat and electricity. This calculation was done by:
        - determining how much wood could be sustainably harvested in New Hampshire;
        - reducing this estimated value by 50% to account for potential landowner issues and inaccessible forested areas; and
        - quantifying the energy content of the remaining amount of wood

- CSNE performed a preliminary analysis of emissions reduction that could be realized if the most aggressive strategies under consideration.
    - These actions include:
        - the Regional Greenhouse Gas Initiative (RGGI) - in the case where emissions are capped at 2018 levels past 2018
        - aggressive TLU standards:
            - 50% reduction in projected passenger VMT by 2050
            - 50MPG CAFE standard
            - 20% reduction in the carbon content of fuels; and
            - increased fuel economy in heavy duty trucks
        - maximizing efficiency in RCI using current technology (25-50% gains) in new and old buildings
    - When these actions are combined, there would only be an 8.25 MMTCO2e reduction in CO2 emissions below the BAU emissions projections by 2025. These proposed aggressive actions would only offset the projected growth in emissions and would not begin to reduce CO_2 emissions below 1990 levels. The CO_2 emissions would only be stabilized at 1990 levels by 2050.
    - Innovative technology or very aggressive solutions would be required to reduce emissions below 1990 levels by 2050.

- It was noted that, because the state of New Hampshire is experiencing growth rates higher than other New England states and is expected to continue to do so, emissions reductions may be more difficult for the State to achieve.
- By applying strategies regionally, it is possible to get closer to GHG reduction goals because other states are not growing as fast as New Hampshire, and this growth offsets GHG reductions.

Matt Magnusson – Economic Analysis
Working with Dr. Ross Gittell at WSBE-UNH and CSNE

- The economic analysis of the actions under development by the WGs was conducted by CSNE team members, who previously had completed the Economic Impact Analysis of the Renewable Portfolio Standard (RPS) in New Hampshire and an Economic Impact Analysis of the Regional Greenhouse Gas Initiative (RGGI) in New Hampshire.
  - As part of these studies they quantified the anticipated direct costs and benefits of these policies and provided documentation of the assumptions behind calculations.
  - The energy price forecast for 2050 was determined using the Energy Information Agency (EIA) data for fuels and ISO-NE data for electricity.
  - Regional Economic Models, Inc (REMI) was used for analyses.

- For the preliminary action analysis, Matt Magnusson described some of the basics assumptions used to develop cost of implementation and cost savings estimates for the actions in the EGU, RCI and TLU WGs.

- Electric Generation and Usage (EGU)
  - The model evaluated the impact of energy efficiency procurement; demand reduction; increased deployment of combined heat and power projects (CHP); and the new source performance standard.

- Transportation and Land Use (TLU)
  - The model determined that:
    - stringent CAFE standards could save $1.2B/yr by 2050 in avoided fuel costs;
    - reduced highway speed could save $150M/yr by2050 in avoided fuel costs; and
    - aggressive reductions in VMTs save $1.2B/yr by 2050 in avoided fuel costs.

- Residential, Commercial, and Industrial (RCI)
  - For these sectors:
    - savings for each sector would be calculated on a savings per square foot basis.
    - it was noted that energy efficiency does not show a linear cost-benefit curve according to referenced studies. There seems to be breakpoints where the costs rise faster than gains in energy efficiency.
    - it was also noted that CSNE needs more info from Working Groups (WGs) to complete the analysis.

- Agriculture, Forestry, and Waste (AFW
  - CSNE needs more info from this WG in order to conduct calculations.

Comments/Questions from TF for CSNE:

- It was suggested that CSNE should meet with specific WGs separately to determine those details that must be further developed for specific actions for and emissions reduction calculations as well as BAU emission projections.
- Another Task Force member wondered whether the group needs to distinguish between goals and actions (i.e., Is carbon sequestration a goal or action? How would it be implemented, given that the technology is still young?)
- It was observed that CSNE may benefit from considering the European Union policy in conducting cost-benefit analysis.
- There was a question concerning what the theoretical potential is for renewables in New Hampshire in addition to biomass. In a follow-up, CSNE will be revisiting the supply/demand curve for renewables.
- A Task Force member inquired as to whether the emissions reductions from actions are additive (e.g., RPS + RGGI). [Note: In the case of the RPS and RGGI, they are complementary policies but their emissions reductions are not additive]

Task Force Deliberation

In preparation for the Task Force meeting, members were asked to complete a survey in order to assess their early impressions regarding the status of the actions under consideration. In the survey they were asked to rate whether actions merited further consideration, did not merit further consideration, or whether they need more information to make a determination.

At the meeting, the survey results were circulated to the TF, and the discussions focused primarily on those potential actions, regarding which there was the greatest level of questions or concerns. At the meeting, TF members provided background and perspective from WG discussions and draft action reports. DES staff provided support as necessary.

Some overarching & unifying themes that emerged from the discussion included:

1. *defining short, medium, and long term actions and goals; and*
2. *possibly structuring the final report around such major themes as economy, sustainability, and education.*

TF members also requested that a matrix be developed to assist the TF in determining the actions that can create the largest impact in reducing GHG emissions while at the same time incurring the lowest possible cost to the people, government, and economy.

Electric Generation and Usage (EGU)

Environmental Northeast Attorneys (ENEA) who also participated in the EGU WG were available to answer questions.

- The survey results indicated:
  - *The following merit further consideration:*
    - *Action 1.1: Implementation Decoupling to Remove Barriers to Energy Efficiency Investments by Utilities*
    - *Action 1.2: Energy Efficiency Procurement*
    - *Action 2.4: Low & Non-CO2 Emitting Supply Side Resources*
    - *Some TF members were for and some were against further consideration of the following:*
    - *Action 2.5: Nuclear Power Capacity*
    - *Action 2.3: New Source Performance Standard*
    - *Action 1.3: Combined Heat & Power Portfolio Standard*
  - *The following merit further consideration but were not discussed by TF:*
    - *Action 2.1: Renewable Portfolio Standard*
    - *Action 2.2: Regional Greenhouse Gas Initiative*

- Action 1.1 – Implementing Decoupling to Remove Barriers to Energy Efficiency Investments by Utilities
  - Overview of Proposed Action:

        - This action proposes decoupling a utility's profits from its retail sales. Under the current regulatory framework, a utility's profits are tied to the amount of electricity that its sell. This may present a barrier to energy efficiency programs, which reduce sales and therefore profit. By decoupling profits and sales, a significant barrier to energy efficiency may be removed by allowing a utility to make a guaranteed profit while pursuing greater energy efficiency. would provide an incentive feature for energy efficiency by creating a different rate structure that also compensates electric utilities.
    - Comments:
        - Some members stated that decoupling would not result in direct energy efficiency; it must be combined with other actions.
        - The state with most experience and success with decoupling is CA. Other states have tried it, but some have had difficulty implementing it (e.g., RI). MA is anticipating enactment of a new energy statute this year that may include decoupling.

- Action 1.2 – Energy Efficiency Procurement
    - Overview of Proposed Action:
        - In this action, energy efficiency projects would compete with proposed new generation facilities in the forward capacity market (FCM) to meet the projected electrical demand. The action is designed around the idea that rather than building new generation capacity to meet the demand for electricity, companies would develop energy efficiency projects that offset the anticipated growth in demand. As part of this action, an Energy Efficiency Advisory Council would help to oversee implementation.
    - Comments:
        - Some members believe EEP is cutting edge; RI & CT have this in place (MA soon) but it is a challenge to implement because it has to be done building-by-building rather than with decoupling, which is done at the supply.
        - It was observed that there may be challenges from the utility perspective as it may reduce potential profits. However, by implementing this action with decoupling then this barrier would be reduced or eliminated.
        - ENEA believes this is a win-win for everyone, including consumers, businesses, and utilities because efficiency is cheaper than supply.
        - This would increase jobs (training required) for energy audits and installations.
        - This would create an implementation challenge, but the premise is well accepted.
        - A stakeholder council would be useful.
        - ENEA also responded to a question from the TF by explaining that this action includes rebates for the consumers who retrofit their homes or obtain Energy Star certifications. There would be subcontracts to engineering and installation companies to assist with this work.
        - Other TF members noted this is not a new concept and it goes along with decoupling. Energy efficiency has the lowest cost per KWh for procurement and training sessions are being held around the region.

- Action 2.5 – Nuclear Power Capacity
    - Overview of Proposed Action:
        - The issue here, as framed by the Working Group, is whether New Hampshire should maintain its existing nuclear generation capacity. Seabrook (the only nuclear site in New Hampshire) will have to re-license prior to 2030.

- Comments:
  - One Task Force member suggested that the WG should take out the phrase "is not supported" from the draft Action Report.
  - Another member stated that because the state does not play a role in re-licensing, the TF should not be concerned with this.
  - It was also suggested that the WG should delete reference to Energy Facility Siting Evaluation Committee (SEC) since the SEC has no jurisdiction over Seabrook.
  - People have differing opinions on nuclear power. It does reduce significantly lower CO_2 emissions compared to other power sources (1/3 of a natural gas plant), but is not carbon free because of the large amount of energy required to mine uranium ore and process it into fuel rods. Still, social implications of all actions must be considered.
  - It was suggested that the TF should acknowledge it with sensitivity by means of its pros and cons, as well as consider the theoretical potential of nuclear power.

- Action 2.3 – New Source Performance Standard (NSPS)
  - Overview of Proposed Action:
    - This action would require all new power plants, regardless of their fuel, to meet specified emission limits.
  - Comments:
    - Matt F. from CSNE confirmed that business-as-usual power generation from the current regional power pool produces about 1100 lbs CO_2/MWh; the NSPS reductions were calculated to determine the impact of setting the NSPS at a number of emissions limits ranging from 250 to 800 lbs CO_2/MWh.
    - It was observed that this particular action may only be successful if implemented at the national or regional level and that a state base standard may be impractical.
    - It was also noted that some assumptions regarding future emissions may be inaccurate as new plants would most likely be built in more populated states where demand is high.
    - Another individual noted that a 250 lbs CO_2 /MWh emission standard would require new technology and changes in infrastructure to be implemented before any new coal or natural gas plants could be built. Cost-effective carbon capture technology and storage infrastructure (e.g., a pipeline for CO_2 to be transported from the Northeast to the Mid-Atlantic states) may take several years to develop. If the limit were set at 800 lbs CO_2 /MWh, then new natural gas plants could meet the standard without modification.

- Action 1.3 – Combined Heat and Power (CHP) Portfolio Standard
  - Overview of Proposed Action:
    - A CHP Portfolio standard would require that a certain percentage of the state's generation be met by CHP resources. CHP combines the heat and electric generation processes and is able to achieve very high efficiency rates in the process. It can be employed in cases where there is large thermal loads are required as this would be a sufficient source of the steam that would be used to generate electricity. The electricity would in effect become the "waste product" of an existing process. It is useful to use waste heat from boiler to generate electricity as a combined process. This would significantly increase efficiency for buildings.
  - Comments
    - A Task Force member observed that CHP is best applied where there is a large need for heat onsite, like at process plants that require a lot of steam.
    - Another member questioned whether the Renewable Portfolio Standards (RPS) is an appropriate action in which to locate a CHP standard. They felt that the WG should consider adding the CHP standard to the RPS action rather than have it stand alone.
    - Another member observed that the State of Connecticut is offering renewable energy certificates for CHP facilities.

        - The representatives from ENEA believe that this action should be a stand-alone standard, which is not part of the RPS.
        - It was also observed that without implementation of the decoupling action, then the CHP action would not be accepted by utilities.

- Action 2.4 – Low and Non- CO_2 Emitting Supply Side Resources
    - Overview of Proposed Action:
        - This action seeks to address restrictions in the existing regional transmission network that prevent renewable and lower CO_2-emitting power sources from being built due to access limitations.
    - Comments
        - It was stated that the WG may need to strengthen this action and it would be useful to look at what Canada has done and consider Maine's plans for building large wind farms. New Hampshire could purchase power from Canada and Maine.
        - It was also noted that transmission is always a regional issue, and so there are other discussions happening in different venues, which should be monitored, like ISO-NE and the New Hampshire legislature including Senate Bill 383.
        - A Task Force member observed that this action does not include the deployment of personal solar panels, which are more for distributed generation. It was noted that this would be covered by the RCI WG and promoted by NH RPS.
        - Another TF member noted that the action should refer to Senate Bill 451, which authorizes rate recovery for electric public utilities investments in distributed energy resources.

<u>Adaptation (ADP)</u>
Sherry Godlewski, DES ADP WG facilitator, was available for questions from the TF.

- The survey results indicated:
    - *The following merit further consideration:*
        - *Action 3: Empower Public Health Officials to Prepare for the Public Health Impacts of Climate Change*
        - *Action 7: Permanently establishing a Climate Change Advisory Council*
        - *Action 1: Invest in the Analysis and Dissemination of Accurate and Understandable Information about the Impacts of Climate Change*
        - *Action 4: Strengthen the Protection of New Hampshire's Natural Services Network*
        - *Action 6: Prepare the New Hampshire Economy to Adapt to Climate Change*
    - *The following merit further consideration but were not discussed by TF:*
        - *Action 2: Focus Policies and Actions to Help the Most at Risk Populations Prepare for the Impacts of Climate Change*
        - *Action 5: Increase Resilience to Extreme Weather Events*

- Action 3 – Empower Public Health Officials to Prepare for the Public Health Impacts of Climate Change
    - Comments:
        - A TF member wondered whether it was premature to consider this action.
        - There was also a question regarding whether the Department of Safety/Emergency Management is planning for this.
        - The DES facilitator coordinating this WG noted that the Department of Human Health/Division of Public Health is looking for guidance from the TF on this issue.
        - A TF member posed a question on the air quality of energy efficient (tight) buildings. DES responded that air exchange/filters are typically installed in these buildings and that the building codes should adjust.
        - It was also noted that the ground level ozone air quality standard has been lowered so there will likely be more air more quality violations occurring as the average temperature rises. However,

this rise will be at ground level where ozone has health impacts as opposed to in the upper atmosphere where it would block harmful rays from the sun.

- Action 7 - Permanently establishing a Climate Change Advisory Council
  - Overview of Proposed Action:
    - This council would identify and implement strategies to reduce the impacts of climate change across the state. The Council would include state agencies such as DES, DOT, DRED, DHH.
  - Comments
    - Several TF noted that this action is important, as it keeps coming to the table. A council has not yet been established, but it should be a follow up to the release of the Climate Change Action Plan.
    - Another Task Force member noted that it is important to look at the models that have been established in other states.

- Action 1 - Invest in the Analysis and Dissemination of Accurate and Understandable Information about the Impacts of Climate Change
  - Overview of Proposed Action:
    - This action would identify critical information that is needed in order to respond to the projected impacts of climate change. The action also includes education of decision and policymakers, as well as partnerships between stakeholders. One example discussed is updating existing floodplain maps, especially for coastal areas which are highly sensitive to increased storms due to climate change. Data need to be updated, as do new zoning requirements.
  - Comments:
    - A TF member suggested that the WG should ground truth with universities, non-profits, and other partners. DES commented that coastal states have been involved and are active, but that the WG will be reaching out further.
    - Another TF member suggested that the coordinating efforts should be New Hampshire specific (e.g., sugar mapling, snow-mobiling, ski resorts) and they wondered who would take responsibility for this coordination. The businesses and organizations that would be affected need to be identified state-wide.

- Action 4 - Strengthen the Protection of New Hampshire's Natural Services Network
  - Comments:
    - Several TF members felt that they would like to select more clear terms than "natural services," and that a better term might be "ecological services."
    - Another member felt that it is important to recognize that putting an economic value to Natural Services is going to be difficult.

- Action 6 - Prepare the New Hampshire Economy to Adapt to Climate Change
  - Comments:
    - A TF member noted that the concept of climate change impacts should include the costs associated with its solutions. For manufacturing, there would be an increased cost of energy and additional costs for controls.
    - Another member observed that businesses would need support during the emergency response phase as well as the event recovery phase.
    - Another member felt that insurance companies would need to expect different or more frequent natural disasters. These events would include more common forest fire occurrences, as well as flooding and high winds.
    - A TF member felt that, when considering program funding, the Systems Benefits Charge might be a source.

- Members of the TF also asked that the WG look at other states' plans, as states like Connecticut are working to build a new economy based on alternative fuels. These members felt that the base of New Hampshire's economy could turn to green industry and alternative energy.
- DES noted that the economic impacts of the entire plan will be discussed further during the fourth and fifth Task Force meetings when there will be a discussion regarding the implementation of the actions.
- Another Task Force member felt that it may be valuable to integrate the economic development aspects of adaptation into the public engagement and outreach initiatives that will focus on the changes that must occur in order to adapt to climate change. This integration may improve the ability to "sell" the solutions to the public. Without this integration the public may be unwilling or unable to change their behaviors and habits since they wouldn't see the financial benefits of adopting the changes.

<u>Agriculture, Forestry and Waste (AFW)</u>

- *The survey results indicated:*
  - *The following merit further consideration:*
    - *Action 2.2.3: Ensure the Most Efficient Use of Energy/Biomass Stock*
    - *Action 1.1.1: Increase Cover Crops*
    - *Action 3.1: Pay-as-you-Throw Initiative (PAYT)*
    - *Action 1.1.2: Increase Conservation Tillage/No-Till Farming Practices*
    - *Action 1.3: Durable Wood Product Promotion*
  - *The following merit further consideration but were not discussed by TF:*
    - *All other actions merit further consideration according to the survey results.*

- Action 2.2.3 -: Ensure the Most Efficient Use of Energy/Biomass Stock
  - Overview of Proposed Action:
    - This action was developed around the concept that it is only possible to grow so much biomass each year that can be sustainably harvested without damaging the capacity of the forests to grow an equal amount in the future. These sustainable limits must be understood.
  - Comments:
    - The TF had a brief discussion concerning growing quick growth/low energy input/high energy output forage crops and trees.
    - During this discussion it was noted that there is not enough agricultural (Ag) land in New Hampshire to do this and it is not possible to grow mono-crops on forested land. However, it is useful to continue researching crops that grow well on marginal (non-agricultural) land (e.g., study at UMASS on switchgrass)
    - Several TF members opposed converting forested land to agricultural land because forests absorb so much CO_2.
    - One TF member suggested maximizing the use of all available underutilized land (e.g., using highway median strips like in developing countries, switchgrass on front lawns, off fairways on golf courses) to grow biomass energy crops.
    - Another TF member noted that it is necessary to be realistic concerning the opportunities that New Hampshire can take advantage of and look at the net benefits of what we can do considering our climate.
    - It was also observed that New Hampshire is 84% forested, and the forests may need to be managed better. This is where substantial CO_2 reductions can take place and have a greater impact. One problem with cover crops is that they cannot be grown during the winter in New Hampshire.
    - Several TF members noted that the term biomass is used loosely and there is a misperception around it. Action reports should use the biomass definition from statute found in the RPS legislation.

        - Another individual questioned whether there is a great deal of biomass that is not being used efficiently because people are afraid they will lose their forests. By using forests sustainably, New Hampshire could realize a win-win situation because managing forests enhances their productivity as it produces fuel which would displace fossil fuels.
        - There was also an observation, given the current food crisis worldwide, that there needs to be a consideration of food and fuel for the State.
        - To facilitate this it was suggested that the WG could mention other options for biodiesel feedstocks besides crops (e.g., waste streams and algae) because using Ag-land for this purpose has unintended consequences for food production.
        - It was also noted that, because conventional agriculture practices rely on fossil fuels, that the WG should consider alternative, bio-based chemicals for pesticides and fertilizers.

- Action 1.1.1 - Increase Cover Crops
    - Overview of Proposed Action:
        - This action was discussed briefly. Cover crops create a net reduction in GHG emissions by increasing the amount of carbon that is stored in agricultural soils and they also reduce the need for fertilizers by increasing the soils' fertility.
    - Comments
        - A question was raised on what crops were being grown and what incentives could be provided to encourage this action.
        - It was noted that cover crops are already encouraged by the Farm Bureau.

- Action 3.1 - Pay-as-you-Throw Initiative (PAYT)
    - Overview of Proposed Action:
        - Under this action, New Hampshire households would pay for the weight/volume of their waste. This is already being done in some municipalities. This action could have an immediate impact.
    - Comments
        - There was a concern expressed by one Task Force member that this action might encourage dumping.
        - Another Task Force member noted that this action could also encourage more recycling. However, recycling may need to become easier for people to do in order for PAYT to have this effect.

- Action 1.1.2 - Increase Conservation Tillage/No-Till Farming Practices
    - Overview of Proposed Action:
        - Conservation tillage/no tilling is considered, at this time, a better farming practice for growing crops from a GHG emission perspective due to the increased amount of carbon that gets stored in agricultural soils as well as the huge energy savings associated with decreased tractor and equipment use.
    - Comments:
        - A TF member noted that the WG needs to determine whether there is an existing education entity that has been charged with informing farmers of this practice.
        - Another TF member requested that the WG include an action that promotes local agriculture. DES responded that this action is currently under development.
        - A TF member also asked whether the WG had considered the secondary impacts of fertilizers and pesticides and whether there should be an organic farming action.
        - WG members noted that they felt like they needed to limit their actions, so they took out organic farming since there was not a clear GHG emission reduction benefit associated with that action.
        - Organic farming was left out of the Action Report because differences between conventional and organic farming emissions are not apparent at this time.

- Action 1.3 - Durable Wood Product Promotion

- Overview of Proposed Action:
  - This action promotes building products with high quality, local, solid wood rather than imported, aggregated wood composites or plastics derived from fossil fuels. By doing so, the products avoid fossil fuel consumption and carbon is also stored long-term in the wood products.
- Comments:
  - A TF member noted that there may need to be consideration given to the emissions associated with the transportation and manufacturing of the wood products in order for the TF to understand the carbon emission impacts of durable wood products. It was felt that manufacturing is responsible for the greater impact.
  - Another TF member observed that any analysis of the action should consider the life cycle assessment (LCA) of wood from within the state. Green building LCAs are common; they are used to determine the most environmentally-friendly and cost-effective materials to use in building, particularly in LEED certification.
  - In follow up to this point, it was asked whether this action was considered by the RCI WG for construction of buildings.

- Other general comments for AFW
  - A TF member noted that urban forestry, which has a cooling effect on buildings during the warmer months, may be worth considering as an action as it offers a shading/cooling effect for homes.
  - Another member observed that brown grease could be used as a feedstock for bio-based energy products and could be diverted from the waste stream.
  - The WG feels like it needs more help with the waste portion of their action report.

<u>Residential, Commercial, and Industrial (RCI)</u>
Michele Andy, the DES RCI WG facilitator, was available for questions from the TF.

- *The survey results indicated:*
  - *The following merited further consideration and were discussed by TF:*
    - *Action 3.1: Thermal System Benefit Charge (TSBC)*
    - *Action 1.6: Establish a Comprehensive Energy Efficiency and Renewable Energy Education and Demonstration Center*
    - *Action 1.5: Establish an Energy Properties Section in MLS Listings*
    - *Action 4.3: Residential Energy Demand Reduction*
    - *Action 4.1: Energy Efficiency and Conservation in School Curriculum*
    - *Action 2.3: Mandatory CO_2 Emission Reporting*
    - *Action 1.8: Conserving the Embodied Energy in Existing Building Stock*
  - *The following merit further consideration but were not discussed by TF:*
    - *All other actions merit further consideration according to the survey results.*

Action 3.1 - Thermal System Benefit Charge (TSBC)

- Overview of Proposed Action:
  - An action that would increase the renewable energy component of New Hampshire's thermal energy consumption through a charge that would be levied on the fuels used for heating.
  - The funds would be directed toward incentives for renewable energy systems that "change the temperature of air, water or some other material for a useful purpose." The charge would be based on a carbon output per unit of energy delivered.
  - This action could have significant reductions in CO_2 emissions because of the high percentage of New Hampshire residents that rely on oil heat - 85% of New Hampshire uses oil rather than propane & natural gas.
- Comments:
  - Members of the TF asked to see data on the cost effectiveness of this action. CSNE is currently working on cost-benefits.
  - It was noted that solar and other renewables have a significant capital cost but overall lifetime savings. However, it was felt that there is no funding mechanism to address this obstacle.
  - A TF member suggested that funding could come from a tax on propane and be used to create something similar to the GHG Emissions Reduction Fund that was developed for RGGI.
  - The RGGI fund can help consumers avoid the TSBC if they choose renewables, or offset the demand side.
  - Another Task Force member suggested that the WG could add a Renewable Thermal System action that would integrate and develop a program for promising renewables. This action would use the TSBC as a funding mechanism rather than an implementation measure.
  - Another member noted that there could be an action for a general funding mechanism, which would fund incentives, overcome market barriers, and pay for educational initiatives. This fund could integrate the RGGI fund, SBC funds, RPS funds, and revolving loan funds. A program could be developed to monitor these funding mechanisms.
  - A TF member observed that any funding mechanisms should be developed in a manner that protects consumers from cross fuel funding, which would occur if distributors and consumers of one fuel type paid fees that paid for efficiency and conservation of another type of fuel.
  - Another member observed that electric utility customers are already paying a System Benefits Charge for electricity. Most people cannot access these funds to pay for thermal energy efficiency upgrades since most people do not heat their homes with only electricity.
  - It was also noted that taxes and fees are implemented to fund projects, but can also be created to improve the competitiveness of new technologies in the marketplace (e.g., for renewables).
  - Another member stated that the final Action Plan cannot be concerned with political agendas, as it is paramount to reduce CO_2 emissions with minimal costs. Similar to the nuclear issue, the TF should figure out the scope that they wish to consider, identify the programmatic output they wish to see and consider a comprehensive range of issues.

- Action 1.6 - Establish a Comprehensive Energy Efficiency and Renewable Energy Education and Demonstration Center
  - Overview of Proposed Action:
    - This action is focused on addressing the gap that exists between the knowledge and practice of using current technology more efficiently to reduce GHG emissions.
    - This gap would be addressed through the establishment of an education center which would provide resources and training opportunities for those who design, build, maintain, sell and occupy buildings.
    - The center would be located in the Lakes Region Community College as it has an existing robust energy efficiency program already.

- Comments:
  - A TF member raised a concerns that this and many other proposed actions are going to require money and that it may be necessary to focus on what actions can save money, avoid the greatest costs money or provide the greatest GHG emission reductions per dollar spent.
  - Other TF members pointed out that education is a necessary tool – in schools and training workshops - to change people's behavior.

- Action 1.5 - Establish an Energy Properties Section in MLS Listings
  - Overview of Proposed Action:
    - This action seeks to encourage greater efficiency in home construction and renovation by providing consumers with ability to compare the energy use of real estate properties.
    - This action would establish an energy rating in the MLS listings for real estate. This rating would use specific defined criteria for rating the energy use of homes. These ratings would drive efficiency by becoming marketing tools to speed home sales.
    - There will also need to be an educational component for both real estate agents and consumers in order for the energy rating to translate into a meaningful topic during the home sale process.
  - Comments:
    - A TF member raised the question whether this should be a required or voluntary entry in the MLS listing. It was noted that the WG currently views this as being a voluntary action.
    - In response another TF member stated that the drawback to a voluntary listing is that the buildings that would do well would include the rating and the ones that would do poorly would not include the rating in their listing.
    - It was mentioned that the WG may want to consider pushing for a mandate on baseline energy audits for all buildings.
    - A TF member mentioned that the real estate community should be involved in future discussions with WG regarding this action.
    - Another TF member noted that the Residential Energy Performance Association (REPA) would also be a valuable organization to contact.

- Action 4.3 - Residential Energy Demand Reduction
  - Overview of Proposed Action:
    - This action would encourage New Hampshire residents to adopt the NH Carbon Challenge as a platform to reduce residential energy consumption. The NHCC calls on citizens to reduce their emissions by 10,000 lbs CO_2/yr. The program influences residential energy consumption by affecting the personal choices that residents make throughout their lives which influence their energy consumption. This program is already in place but it is necessary to get more people to participate through education.

- Action 4.1 - Energy Efficiency and Conservation in School Curriculum
  - Overview of Proposed Action:
    - This action proposes to enhance the existing K-12 school curriculum standards to provide students with a more comprehensive understanding of the issues of climate change and to promote energy efficiency and conservation measures by connecting behavior choices to the causes and impacts of climate change.
    - This action would develop a committee to create academic modules for school curricula at all levels, particularly high school.
  - Comments:
    - A TF member inquired as to whether the WG had contacted the NH Department of Education. The WG has not, but has had discussions with teachers.
    - A few TF members expressed hope that some of these topics are already being taught, but noted that this action could be valuable through the provision of a package of lessons for teachers to use.

        - One member mentioned that electric utilities have already created school education programs. However, these are focused on conservation and energy efficiency rather than climate change.

- Action 2.3 - Mandatory CO_2 Emission Reporting
  - Overview of Proposed Action:
    - This action would encourage commercial and industrial facilities to reduce the carbon intensiveness of their operations by requiring commercial and industrial facilities to report the annual CO2 emissions associated with their operations. This reporting would occur in a manner consistent with pollutant reporting that is already conducted. Those operations emitting over a certain amount could be required to pay an emission-based fee. The imposition of fees could require a statutory amendment, an administrative rule change, or both.
  - Comments:
    - It was noted that other states have mandatory reporting now and that the Climate Registry is providing the reporting structure for the states that have mandatory reporting.
    - Another individual observed that a voluntary National Climate Registry is being developed.
    - One TF member felt that this action is important to get companies to start managing their climate change risks and to educate and penalize companies for irresponsible practices.
    - It was observed that there would be costs associated with data collection and reporting for the state but this could be funded by the fees assessed for emissions that exceed a specific threshold.
    - For this action to be least intrusive, it was noted that monitoring equipment should not used to measure emissions. Instead, emissions could be calculated by applying standardized emission factors to the amounts of fuel and energy consumed.
    - It was felt by one TF member that the benefits of this action could be substantial, although it would not necessarily be a popular action with companies.
    - Another member felt that this would be a burden on businesses and it may even lead to a loss in industrial and manufacturing capacity in the State. In order to avoid this, the action should be implemented regionally or nationally.
    - It was also noted that the EPA is currently considering a regional or national program and that this should be mentioned in the Action Report.
    - Another change that was suggested was to require reporting but to dispense with the assessment of a fee.

- Action 1.8 - Conserving the Embodied Energy in Existing Building Stock
    - Overview of Proposed Action:
        - This program seeks to conserve the embodied energy in the state's existing building stock. 140,000 of the estimated 660,000 housing units in NH were built before 1940 and while homes built prior to 1920 have been shown to be more efficient than homes built at any time since, these home represent a considerable expenditure of energy for materials and construction. By preserving these buildings through renovation rather than replacement, the energy required to construct an entirely new structure can be avoided, while in many instances maintaining a building with efficiencies comparable to those built today.
    - Comments:
        - A TF member noted that the description of old buildings is not entirely accurate and that older buildings can waste large amounts of energy, unlike new, highly insulated buildings.

Transportation and Land Use (TLU)

Becky Ohler and Carolyn Russell, DES TLU WG facilitators available for questions from the TF.

- *The survey results indicated that the Task Force had a larger number of questions related to actions in the objective 2A section than in any other area of the TLU chapter.*
- *The WG elected to focus on this the objective 2A actions in order to address the underlying concerns that the TF may have had concerning driver behavior programs.*
- *These actions would effectively make choosing less efficient vehicles more expensive for drivers through increased fuel prices, a gas tax, registration fees, point-of-sale fees, or increased insurance costs.*

- *Introduction to the TLU Actions:*
  - The facilitators noted that the majority of the TLU actions, with which the TF had concerns, could not stand by themselves. To illustrate this, the TLU facilitators provided a diagram that characterized the integrated relationship among the availability of transportation options, the costs associated with driving, and impact that land use can have on the total vehicle miles traveled (VMT).
  - All levers in the transportation system must be manipulated simultaneously to realize the greatest reductions in the TLU sector. By recognizing the interconnected nature of the system, the actions which would create the greatest impact can be selected.
  - The daily VMT in New Hampshire is 42 million miles and it is growing 2-5% each year. To reduce this travel demand, there is a need to increase the mass transit options while at the same time providing incentives to use transit and disincentives to drive personal vehicles.
  - It was also noted that affecting land use decisions is a daunting task. To help facilitate this, the CCAP should discourage scattered land use patterns and instead encourage mixed use and denser development.

- Action 2.A.7 – Reduced Parking Availability/Eliminate Free and Cheap Public Parking
  - Overview of Proposed Action:
    - One of the most effective ways to change driving behavior and trip choices is by making things more expensive (e.g., the price of gas; the cost of parking). This involuntarily makes public transit more economical for people.
  - Comments:
    - A question was raised regarding reduced parking and if it would hurt businesses. WG indicated that this potential action would most likely only affect public parking lots.
    - One TF member observed that poor planning could result in a situation where there is a reduction in parking spots that leads to increased VMTs and vehicle emissions as individuals are forced to search for spaces. To address this, free parking elimination must be coordinated with other actions that help people move in and out of downtowns and business districts.

- Goal 2.B – Establish a Balanced, Integrated Multi-Modal Transportation System
  - Comments:
    - A TF member felt that this is a "Chicken & Egg Dilemma." They noted that before eliminating parking availability, public transit needs to be in place, but until ridership/demand of public transit exists, funding would not available to implement public transit infrastructure.
    - It was also opined that it would not be reasonable to increase the gas tax as a method to increase the cost of driving without first developing a more robust public transit system.
    - One member noted that it would be necessary to delineate commuter corridors and gather data on the three New Hampshire counties that currently use public transit (buses) to implement this action.
    - Another member felt that the WG should identify opportunities/locations for more Park and Rides, and public transit stops.
    - A TF member felt that a statistic for WG to consider is the average distance employees drive to work because idle time on highways is a major source of emissions.

        - A few TF members wanted to know if there are data regarding the reduction in VMTs versus increases in fuel price. The WG indicated that there are data on more efficient vehicle sales, increased ridership on public transit, and fewer trips taken when fuel prices go up.

- Actions 2.A.3 Vehicle Miles Traveled (VMT)-Based Insurance Premium Structure & 2.A.4 – VMT-Based Registration Fees
    - Overview of Proposed Action:
        - These actions would base the insurance and registration prices on a driver's annual VMT. Since self-reporting of VMT is not accurate, there would need to be a means of accurately recording and billing VMT.
        - In a pilot study in Oregon, drivers must purchase VMT rather than pay a gas tax (which would be redundant if both are established). Similar to leasing a car, there would be a penalty if a driver goes over a certain number of miles.

- Goal 2.C – Develop Land Use Patterns that Support a Balanced Multi-Modal Transportation System and Disincent VMT
    - Overview of Proposed Action:
        - This action proposes to lower annual VMT by encouraging denser development in order to reduce the average trip length.
    - Comments:
        - It was expressed that the WG needs to consider that rural and poorer populations would suffer most from increased cost of driving. Social justice issues must be a priority in this report as well as carbon emissions.
        - Another TF member noted that these populations may be forced to move into urban areas as costs rise, which might be a benefit because it would help increase density.

- Action 2.C.5 – Apply/Enable a Two-Rate Tax Structure Based on GHG-Impact
    - Comments:
        - A TF member expressed concern that a two-rate structure (e.g., a higher tax rate for developments placed in less densely populated areas) may not be constitutional. As a result, taxes need to be uniformly applied. However, there may be potential for applying rates on a continuum in order to be more impartial.
        - Another TF member felt that this concept is already used in land zoning. Although the State would hold the authority, municipal governments may have the overriding authority to apply these changes in zoning policy.
        - One member indicated that this issue may need to be discussed with the Attorney General.
        - It was also stated that the WG may want to consider discussing this option with the local government center.

- Action 2.C.1.a – GHG Development Impact Fees
    - Comments:
        - One TF member noted that Massachusetts is already doing this and that this action should be implemented at the state level rather than at the community level.
        - Another member felt that there would be a huge benefit for communities that choose mixed use development.
        - One member noted that there could be a competitive disadvantage to this policy that would discourage businesses from moving to New Hampshire.
        - Another member felt that this action could create a faster track to approving development projects since it would be managed at the State level.

- General TLU Comments:
    - One TF member wondered if monies would be dedicated to developing rail services, since it can be the most efficient source of travel.
    - Another TF member suggested that it could be useful to switch the order in which actions were presented (i.e., Actions 2A and 2B) thus focusing on the individual actions first.
    - Another member noted that an action should encourage "negamiles" – the lowest carbon emitted is for the miles that are not driven.
    - It was also felt that another action should be dedicated to making telecommuting and longer, fewer work days more widely accepted by businesses.
    - A few TF members felt that some of these actions may need to come in the long-term after other actions had created some necessary programs and infrastructure.
    - One TF member stated that while the TF may not all support the full range of TLU issues, it may be worthwhile to discuss all the options in the report.
    - It was noted that CSNE may want to report some of its TLU analyses as ranges rather than concrete numbers because they are calculating the aggregated impacts of several actions.
    - There was also some concern about the inclusion of so many "micro-actions" for fear that it would greatly increase the cost of transportation at the State level, particularly with public transit improvements that might not be very effective. There was some feeling that the WG should focus more on vehicle and fuel efficiency. It was noted that the rising cost of fuel is going to decrease driving without costly improvements to infrastructure. The WG responded that any fuel efficiency gains over the next few years would be cancelled out if we continue to sprawl and do not change land use patterns.
    - Another TF member pointed out that it is not the WG's job to pass laws, but to propose policies and programs that will lead to reductions. They cited the case of Europe, in which people are working such daily changes into their lives (e.g., widespread application of congestion charges). The WG and TF should not be afraid to propose drastic actions.

<u>Government Leadership and Action (GLA)</u>
Tom Niejadlik, DES GLA WG facilitator, was available for questions from the TF.

- The survey results indicated:
    - The following merit further consideration:
        - Action 2.2.3: Reduce Energy Use in Existing Government Buildings
        - Action 4.2.1&2: Increase Clean (low carbon) Vehicles in State Fleet – Reduce Emissions from Existing Diesel Vehicles – Reduce Diesel Particulate Emissions through the Use of Retrofit Devices in State Fleet and in State Contracts
        - Action 5.1.2: Reduce Fuel Consumption by State Vehicles – Driver Behavior in State Vehicles – Implement Improved Driver Habits
        - Action 6.1: Reduce Fuel Consumption by State Employee Vehicles – Employee Travel Reductions
        - Action 5.2: Reduce Fuel Consumption by State Vehicles – State Business Related Travel

        - Action 3.2: Increase Use of Renewable Energy Sources and Energy Efficient Technologies – Renewable Electricity Purchase
    - The following merit further consideration but were not discussed by TF:
        - All other actions merit further consideration according to the survey results.

- Action 2.2.3 - Reduce Energy Use in Existing Government Buildings – Leased Space
    - Overview of Proposed Action:
        - Very few commercial buildings are Energy Star or LEED certified. This action incentivizes the incorporation of energy efficiency measures into leased space by landlords by requiring that space leased by the government meet Energy Star ratings or better standards.
    - Comments:
        - A TF member felt that this action could be expanded so that the landlord would commit to becoming environmentally sustainable in terms of GHG emissions.
        - It was also noted that it may be possible to include renewables as an option in rental leases, for an increase in rent if necessary. The WG should ascertain the amount of space leased by the State to determine a theoretical potential.

- Action 4.2.1&2 - Increase Clean (Low Carbon) Vehicles in State Fleet – Reduce Emissions from Existing Diesel Vehicles – Reduce Diesel Particulate Emissions through the Use of Retrofit Devices in State Fleet and in State Contracts
    - Overview of Proposed Action:
        - This action seeks to reduce the warming effect of the soot, which is released by diesel engines. This soot remains in the atmosphere for a relatively short time and efforts to reduce its release can therefore have a quick effect. These actions propose to use diesel retrofitting.
    - Comments:
        - WG needs to get costs on these retrofitting devices.

- Action 5.1.2 - Reduce Fuel Consumption by State Vehicles – Driver Behavior in State Vehicles – Implement Improved Driver Habits
    - Overview of Proposed Action:
        - This action seeks to reduce emissions from existing state motor vehicles though improved driver behavior which includes avoiding aggressive driving such as rapid acceleration and braking, observing the speed limit, as well as consolidating trips and trip planning.
    - Comments:
        - One member felt that it may also be possible to set more efficient routes (e.g., UPS avoids taking left turns).
        - Another TF member questioned whether it is possible to implement these actions by executive order, rather than legislation. They noted that it would still require more than executive order to fully implement - education would be key.
        - It was noted that other groups working on changing drivers' habits have encountered resistance (e.g., DRED).
        - One member proposed the addition of pilot monitors which would go off if the driver exceeds a speed limit or accelerates too fast.
        - Another idea was to add a grade for energy conservation on the employee evaluations.

- Action 6.1 - Reduce Fuel Consumption by State Employee Vehicles – Employee Travel Reductions
    - Overview of Proposed Action:
        - This action targets the emissions associated with state employees traveling to and from work by reducing the number of trips to and from work overall. Reduced trips to work would occur by creating 4 x 10 hour days per week or 9 x 9 hour days per two weeks.
    - Comments:
        - Must make sure employees do not use the term "flextime", rather use "alternative work schedule".
        - The management should be supportive and not focus on only what can go wrong with these alternative work schedules.

- Action 5.2 - Reduce Fuel Consumption by State Vehicles – State Business Related Travel
    - Overview of Proposed Action:
        - This action targets the emissions associated with state employees during work related travel by instituting policies that require more widespread use of strategies to reduce travel (e.g. teleconferencing, and web-conferencing). The state could promote better trip planning: state business trips should be consolidated whenever possible (e.g. trips to the same place at the same time) and vehicles should be assigned automatically based on fuel efficiency and distance traveled.
    - Comments:
        - It was noted that there should also be mention in Action 5.3, of increasing the walkability between offices.

- Action 3.2 - Increase Use of Renewable Energy Sources and Energy Efficient Technologies – Renewable Electricity Purchase
    - Comments:
        - One TF member felt that other states have taken action by purchasing renewables. EPA is recognizing these states. The renewable energy must be available to buy, however.
        - Another TF member observed that wood should be included in the renewables list in Action 3.1.
        - It was also mentioned that it is important to have a PR piece in this report so that people know about the actions that the State is taking to decrease emissions.

<u>Public Comment</u>

- Doug Bogen – Clean Water Action and Clean Water Fund
    - He stressed the importance not to miss the legislative deadline for 2009. If there is a delay in submitting this report, the report may be forgotten if the Governor is not reelected.
    - Also, he would like to see outreach to the environmental groups in the State right away.

Next Steps in CCAP Process

Commissioner Tom Burack opened the floor to concerns and comments regarding what would be required to meet the proposed submission date of September 1, 2008.

- Proposed Schedule
  - June 17
    - WGs to complete Action Reports.
    - CSNE to complete emission calculations.
    - TF meeting to discuss short, mid, long-term goals and State vs. Regional vs. National goals, as well as the implementation of actions.
  - July
    - Public Hearings - 2 weeks
  - August 11
    - Final Task Force Meeting
  - September 1
    - Climate Change Action Plan due

- Concerns with Proposed Plan of Engagement
  - Several TF members felt that it is necessary to have CSNE's analysis in order to make decisions on actions. They felt that it is impossible to determine which actions would have the greatest impact without knowing CO_2 emissions reductions and costs. To facilitate this comparison, they requested a matrix which would allow the TF members to compare and to prioritize actions.
  - Other TF members believed that the WGs should meet with key constituent groups before the public hearings take place so that they have answers to major questions. This would require the identification of all the partners that might exist for support (e.g., Ace Hardware takes in recyclables like fluorescent lamps).
  - Several TF members noted that this compressed time frame is not long enough to gain support from public and key constituents. The complexity of this challenge requires a strong foundation.
  - Other TF members shared their feelings that the final product is not near ready. They felt that more time is needed to create a high quality, credible product that would stimulate excitement by creating a vision that citizens would be interested in applying to their lives.
  - It was noted that if the time frame is short, then the TF would need to focus on a handful of big carbon reduction actions that are much broader principles. In such a case, the report could end up being superficial by preventing the WGs from digging deeper.
  - TF members were also apprehensive about holding public hearings in mid-summer as they anticipated that there would be low turnout.
  - It was also noted that public outreach is needed soon in this process. Public and private cooperation would maximize do-ability/results.
  - There was a general consensus among the TF members, that there was too much to do before the June 17th meeting – the WGs would need to finalize all the Action Reports, CSNE would need to complete another round of calculations, and the TF members would need to read and synthesize them.
  - In terms of extending this process, there was concern among the TF members that the political calendar, which includes national and state elections, may interfere or lessen the public involvement/excitement over this report. As a result it was noted that any future planning would need to be sensitive to this schedule.
  - A TF member also raised the question whether there is a document that addresses a consensus building process and how contentious issues would be dealt with. DES responded that if a consensus is not met, it is possible to state in the report where disagreements exists.
  - A TF member noted that there would need to be a determination regarding which actions support each other.

- Some members believe the report should focus on actions that would make the most impact, while others believe paring down actions would cut down on total reductions. There is no one silver bullet, it is necessary to highlight big impacts and include incremental, small, individual actions.
- A number of TF members were concerned that even aggressive actions would only result in a stabilization of GHG emissions in the future.

- Commissioner's Response to TF Concerns
  - The Governor would most likely grant an extension and the Commissioner will write to the Governor to request his concurrence
  - Public hearings could be held in September, not July.
  - Important to develop an open and transparent process with a goal of developing a final report that speaks to a competitive economic advantage focused on sustainability. This is a major theme that should be included in the CCAP.
  - DES will be meeting with CSNE May 21 to discuss development of the matrix and timeline.